



HARVESTING WHEAT IN THE PACIFIC NORTHWEST

GRAIN

PLANT MANAGEMENT AND OPERATION

JULY • 1940



A WOMAN'S PLACE IS IN THE HOME—

—ALTHOUGH it might be said without fear of successful contradiction that many of them don't stay there. They're out most of the time. They go shopping. They go to lectures, cooking schools and club meetings.

But do you know what women talk about when they get all arranged around one of these folding tables to play bridge? You can't miss it! They talk about food, rent, and clothing because food, rent and clothing are the three biggest items on the family budget. They are the most interesting things in a woman's life because they are the biggest part of a woman's job.

And YOU can profit by the example. Women spend 85% of the national income, that is, YOUR income. And they do a good job of it, too. That's because they are forever talking about that job. They're forever exchanging tips and suggestions while they're supposed to be playing bridge.

You're a Superintendent. Your place is in the house. But you, too, can take advantage of the methods that the women use. Join the Supers' Society and get in on that exchange of tips and suggestions that will help you take better care of the company's budget. Talking with the other Supers, writing to them, reading what they have written, going over the bulletins and the Society's reports will keep you among the best-informed in the industry. And information means everything these days. Make it today, sure. Write to the Secretary and let him explain to you how business plus pleasure adds up to an unusual value.

SOCIETY OF GRAIN ELEVATOR SUPERINTENDENTS

Board of Trade Building

Chicago, Illinois

Editorial

THE DAY OF BINNING IS HERE

PROTEIN and moisture contents are going to play an important part in handling this year's wheat crop, but these common denominators are going to be just the initial consideration in binning the new "prairie gold."

Those who have followed the proceedings of the Supers' Society, as well as those close students of the articles in GRAIN, will realize that gluten quality and ash content are going to be the money-making factors in binning the new crop, of which there has been none like it in 20 years. And, oh, what a large blessing Mother Nature is delivering to us.

Kansas is reporting much 64-pound wheat; southern Indiana a lot that weighs 52 pounds. Admixtures due to the abandonment of wheat fields last fall and the replanting with other crops this spring are going to bring headaches and long-distance phone calls on long-forgotten cleaner operations and postponed cleaner purchases. Weed seed content in that area from which the loud guffaws have been coming over the Northwest's annual nightmares are going to find a lot of Supers chained to the good ol' Zeleny—perched with a stop watch on the hot spots and we don't mean cabarets. And thank the Lord for that new automatic sampler that's on the market.

Every relic of a storage plant is being pressed into service as rapidly as the new crop moves eastward. The grain will fill every nook and corner, it's going to get all out of line because of congestion, and it's going to tax every Plant Operator with the usual rapid-expansion problems of inexperienced help, inadequate precautionary safety and dust-explosion prevention measures—not to mention fire hazards.

A well-versed Superintendent, an experienced crew, and a well-maintained house are going to be a blessing never before so much appreciated as such good investments. It appears that the members of the Superintendents' Society in particular should come through this year with flying colors for their employers, they having had eleven years of discussions on all such problems as will have to be solved this crop year. Being successful, it is logical to conclude that this will be the first year that their Association will suffer (?) long and excessive growing pains.

We wish you all luck, success, and the best profits to the firm in many a moon.

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Planted in Dry Soil,
Given Up for Lost.

This Year's Grain Crop

Adds Huge Quantities
To the Present Surplus

By Joseph Mosey

WHEN grain-crop estimators sit down during February and March each year to puzzle over reports of acreage planted, moisture and drought, insects, wind damage and so forth, they usually are able to get up with something like the right answers. This year, because of dry soil in most wheat-growing states, the answers added up to the decision that a small crop was in prospect, that in some sections there would be precious little grain looking for storage in terminal elevators. With some help from wartime conditions these answers pushed wheat prices to a high of \$1.13 in late April while elevator men trimmed their sails for a light year, in some cases let their leases lapse, planned long vacations.

The Crop Comes In

▲ This month in Kansas City vacations were hastily called off for the winter wheat crop, sown in sand-dry soil, given up for lost, chilled by a late spring, two weeks late in ripening, was flooding the city. Arriving at the rate of 1,500 cars a day during the first week of harvest, 15 million bushels stood on the sidings waiting for elevator men to untangle them from the greatest rush of all time. Houses filled fast and at the end of the second week were full. Superintendents relaxed long enough to say "uncle," went back to work finding a place for even more.

Backed up in country elevators and on farms in the Southwest was the rest of a 524 million bushel winter wheat crop as estimated by the United States Crop Reporting Board. This was 35 million bushels more than the official estimate of June 1st, only 40 million under last year's harvest. In the Northwest, the spring wheat crop, not yet harvested, was estimated at 13 million more than last year, 21 million more than the ten-year average, a total of 205 million bushels. Last spring's crop estimators had been way under on winter wheat, a little over on spring wheat. All this added up to a total wheat crop of 729 million bushels, just 25 million under the ten-year average, an amount that will more than fill a year's consumption, add to already huge surpluses in the United States and Canada.

QUALITY

In spite of adverse growing conditions the new winter crop has proved ideal for milling purposes. Fields were reported producing 30 to 40 bushels per acre of 63 and 64 pound grain and the general average seemed to be well over last year except in Oklahoma. Most wheat arriving in Kansas City tested No. 1 and No. 2, was of excellent gluten quality.

Millers expected it to produce flour of low ash content, high diastatic activity, superior loaf volume. They called it the "miracle" crop.

More Than Doubled

▲ Most remarkable winter wheat growth was recorded in Oklahoma where many fields had been abandoned in early spring and later sown to other crops. There this month the crop reporters found 54 million bushels, 29 million more than they expected last April. Grain men took exception to the government report, reduced it in their own estimates by as much as ten million, but agreed that the recovery had been phenomenal. In Texas the reporters had to raise their April estimates by 6 million bushels, in Missouri by another six, and in Colorado by three.

Working at the same time on other crops the reporters filed their best estimates of the year's corn production as of July 1st: 8 per cent below last year but still 5 per cent over the ten-year average, a total of 2,415,998,000 bushels. Oats expected this year total 1,031,622,000 bushels, up 100 million over last year; but rye prospects were down from the estimate of a month ago to 36,848,000 bushels, 3 million under last year. Barley will be up 10 million over 1939 to 287,377,000 bushels, 62 million over the ten-year average, all subject to the condition that the weather man doesn't let the reporters down between now and harvest time.

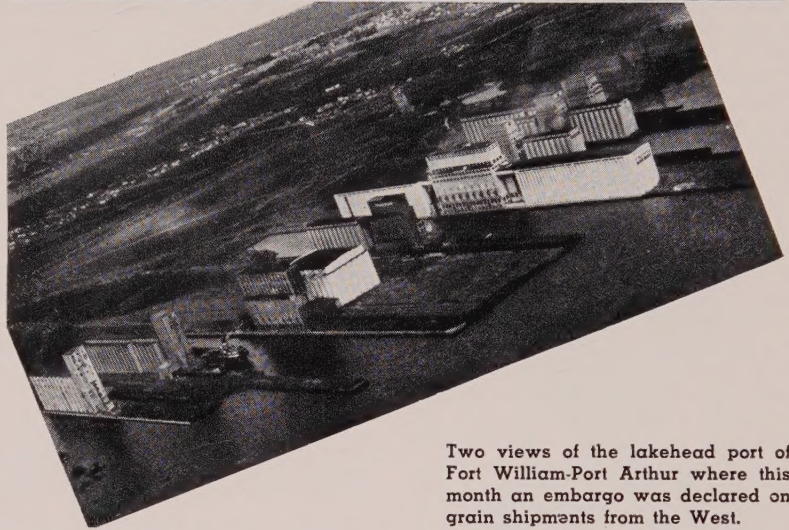
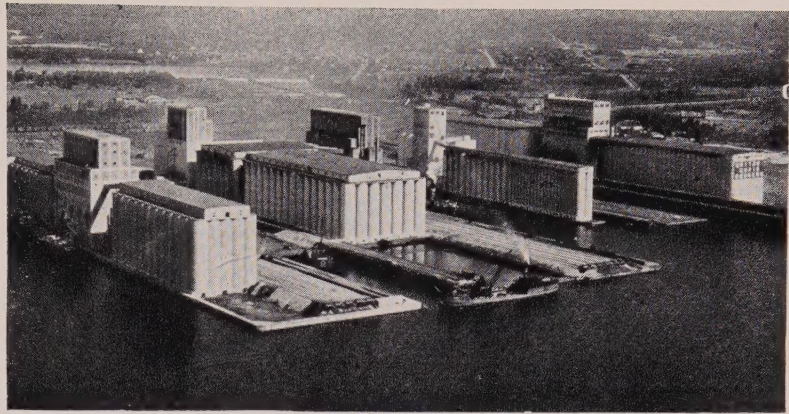
Still to be translated into terms of bushels is a 10 per cent increase in soybean acreage as reported by the Crop Board. Illinois led the list of states with nearly 3 million acres growing. Iowa was second with 1½ million. Together the central states and adjacent territory increased the total acreage planted to 10,286,000, over 10 million acres for the first time. Six years ago the acreage was only half as much, 5 million.

Chicago Ships Corn

▲ While terminal wholesale markets were struggling with the incoming harvest in Kansas City, secondary and export houses were giving in to pressure from the rear. Lake shipments out of Chicago, largely of corn, were up 22 percent over last year. Most of the corn, moved in from Commodity Credit's steel bins, was going to fill a subsidized order for 25 million bushels consigned to Great Britain by way of Canada. The storage space left open by these shipments will be available to Kansas City or Minneapolis shippers as well as to country receiving stations in the surrounding territory.

In Buffalo, where railroad rates to ports on the Atlantic seaboard had been reduced last month, 900 cars were loaded out in a single week. More than 4 million bushels of Canadian grain now stored in Buffalo has been sold for export and will be moved out in coming weeks. Still, receipts at Buffalo terminals totaled 42 million for the third week in July against 34 million a year ago; and in all, the outward movement is much slower. At this rate there will be little space left in Buffalo by the end of the summer.

In Canada, too, elevator men were wondering whether or not they would be able to find room for all the grain on hand and in sight. With a crop estimated at 423 million soon to be added to a carryover of 255 million, dominion elevators are already crowded. In Fort William-Port Arthur this month 80 million bushels on hand left storage space for only 14 million more and not far to the west was a visible supply or more than 100 million. Shipping is practically at a



Two views of the lakehead port of Fort William-Port Arthur where this month an embargo was declared on grain shipments from the West.

standstill. In Superior and Duluth, as well as Buffalo, elevator men whose stocks are already heavy, may expect to receive large quantities of Canadian grain for storage during the coming months. Such a move would keep the surplus from tying up hundreds of railroad cars on sidings in the Canadian Northwest. This season promises even more acute shortage of elevator space than that which led to embargoes of Canadian terminals last year.

A Chronic Surplus

▲ Perennially a problem to the United States and Canada both is this chronic surplus of grain, much needed by the rest of a world that is seldom able to buy it. Worse off this year than ever before, Europe needs some 300 million bushels of wheat to make up for her smallest crop in ten years. The coldest winter in history, late spring, floods and the war have all contributed to this condition; and although reports from the capitals of the continent do not agree, there is no doubt that Europe needs both cereals and feeds badly now, will need them desperately next winter.

During the five years from 1925 to 1929 United States sold an average of 170 million bushels of wheat in the export market, just 5 million less than the exportable surplus is today. In 1939, in spite of a subsidy program designed to maintain it, the figure dropped to 84 million. For the year ending this month it passed 25 million on the way down and falling fast. Little hope can be expressed that more than a few cargoes of United States grain will be loaded out during the next few months; for with the fall of Holland, Belgium and France and the closing of the Mediterranean, only England is left in a position to receive transatlantic shipments as long as the war continues.

Canada Comes First

▲ Although England bought 30 per cent of United States wheat exports during 1938, she is now obliged by both moral obligations and exchange restrictions to buy first from Canada where the exportable surplus can be figured at 500 million bushels against a British yearly order of less than 200 million. After Canadian sources,

there are still Australian and South American to be considered. That the United States will not use the subsidy program to fight for this market has been pledged by implication. The good-neighbor, Pan-American and hemisphere defense policies require cooperation rather than competition in world trade. That the subsidy program may be used to encourage shipments to Japan, where the rice crop is down from 10 to 20 per cent, and to China, famous for its famines, is a possibility although shipments from the Pacific Northwest ports indicate little such trend at the present time.

Meantime, the new grain keeps pouring into terminal elevators and little of it can be shipped out again. In the United States and Can-

ada the surplus of food so sadly needed in Europe and Asia continues to grow and on the shoulders of elevator men in America rests the responsibility for tending the world's grain while the strong men are disrupting its politics.

This year's official estimate of United States crops shows better than average yields. Wheat is nearly what it was last year, corn better than average. Oats, barley and flax are well over both last year and the ten-year average, while rye is off some two million bushels. At the end of the current harvest most of this grain will be stored away in terminal houses with no place to go.

Crop:	This Year	Last Year	10-Year Average
Total Wheat	728,644,000	754,971,000	754,685,000
Winter Wheat	523,990,000	563,431,000	571,067,000
Spring Wheat	204,654,000	191,540,000	183,619,000
Durum	35,000,000	34,000,000	30,000,000
Corn	2,415,998,000	2,619,000,000	2,299,342,000
Oats	1,031,622,000	937,215,000	1,024,852,000
Rye	36,848,000	39,249,000	38,095,000
Barley	287,377,000	276,298,000	225,486,000
Flax	29,000,000	20,000,000	11,000,000

Figures are from the United States Department of Agriculture

GRAIN INSPECTION

TYPES AND VARIETIES

By E. L. Betton

Kansas State Grain Inspection Department

AN INSPECTOR'S grade, no matter how competent the inspector may be, can only be as good as the sample of a lot or parcel of grain. We recognize the importance of good sampling and have from time to time returned to the car and taken what we call "tops" and "bottoms" to check our samplers. Many probes are taken in the car and the location of each probe is identified and kept separate. From these individual probes we are able to get an idea just how grain lies in the car. We selected a few of the outstanding cars and charted them to show how unevenly they were loaded.

Obtaining a representative sample is a difficult task on unevenly loaded cars. This is a condition and not a habit at country points. The country elevator man has little chance to bin his grain by grade during the rush at harvest time, due of course, to combining. As a result many cars are loaded direct from the truck to the car which is the cause for uneven loaded cars.

The Picture Begins

▲ In Kansas the picture of grain types and varieties begins about 1873 when the Mennonites came here from Russia. Kansas had been growing wheat brought in from the eastern United States by the early settlers. Then in 1873, the Mennonites came from Russia to central Kansas bringing with them a new type of wheat. These Mennonites were unusually good farmers. They had migrated from Germany to Russia where they lived for a hundred years, and from Russia they had come to the United States. In the migration of 1873, when they came by hundreds to settle around Halstead, Newton, and Moundridge, Kansas, each family brought with them a bag of wheat. This new wheat soon proved itself superior to the soft wheat which had been grown here. Thus, the wheat and the farmer who knew how to grow it arrived in Kansas together. This wheat was named Turkey Red, and it grew so much in favor for its milling qualities that a phrase was coined, "Kansas grows the best wheat in the world."

Before 1915, the Kansas law required the governor to appoint a committee of three to make rules for grading grain. This group was known as the Grain Grading Commission, and it met each year in June and established grades for all grain. In 1913, a grade was established for Kansas Turkey Red Wheat, Nos. 1, 2, and 3. This

GRADING

Over 40 different varieties of wheat are grown in the single state of Kansas and they all become mixed on the way to the terminal market. How can a superintendent be expected to tell one from another?

He can't, explains Mr. Betton in this paper read before a meeting of the Kansas City Chapter of the Superintendents' Society.

is the first time a type was mentioned and the nearest our grades ever came to having a variety identified.

Grain inspection is not an exact science, and it is our candid opinion that varieties do not fit into commercial grading of grain. We know the plant breeders have a tough time classifying commercial types.

New Varieties Developed

▲ In the last twenty years new varieties of wheat have been developed which have higher yields and are better adapted to certain parts of Kansas, but it is interesting to note that practically all are developed either by careful selection from superior Turkey Red plants, or by crossing Turkey with spring wheats to bring out certain qualities.

In 1934, a survey was made by the Bureau of Plant Industry of the United States Department of Agriculture which listed forty named varieties grown in Kansas.

It isn't any wonder that inspectors suffer from insomnia with so many types and varieties shoved at them by the car load.

There are a few varieties of wheat that are growing in popularity—for instance, Kanred was the result of careful pedigree selection from a bulk lot of 554 heads of wheat; it is a product of a single head selection from Crimean which had been introduced into the United States from Russia by the United States Department of Agriculture. This was developed by Roberts of the Kansas State College, who began his experience in 1906. By 1917 he had developed a variety that was superior to the original Turkey in yield, earliness, and rust resistance. This was distributed as Kanred.

Kanred has one drawback in com-

mon with Turkey, and that is a weak straw. It has had its greatest success in Northwestern Kansas where a weak straw is not a serious disadvantage because there is seldom danger of wheat lodging because of too much rain. Some chemists reported the milling characteristics on a par with Tenmarq.

Blackhull Next

▲ Blackhull was the next important development in wheat production on the great plains. It originated from three black heads which were found in 1912 in a field of Turkey wheat by E. G. Clark, a farmer living near Sedgwick, Kansas. With unusual care he increased the crop until the new variety was developed. The advantages claimed for Blackhull are that it has a more vigorous growth, matures earlier, is drought resistant, has a stiffer, stronger straw. However, it has been found by experiment to winter kill more easily than Kanred or the original Turkey, and is therefore not recommended for northern and northwestern Kansas. Its heavier test weight and higher yield makes it very popular with the farmer, but to the miller the flour yield is less per bushel, due to the heavy bran cost of the wheat. Neither does it make as light a loaf. In some markets it is penalized on this account.

The Hybrid

▲ Tenmarq is a hybrid, an unusual cross because its parents are winter and spring varieties. Dr. J. R. Parker, Agronomist with the Kansas Agricultural College, is truly the father of Tamarq, and he has nursed it through its development since 1917. He has guided it through a series of tests and examinations so rigid that there is no question about its fitness as a member of the hard wheat aristocracy. On one side is the highly developed, fine quality Pedigree No. 1066 of Crimean or the Turkey Red type of the Hard Red Winter Wheat grown on our southwestern plains; and on the other side is the unsurpassed Marquis of the Hard Red Spring type of the North. Advantages claimed for it are: it matures several days earlier than Turkey or Kanred; it has a stiffer straw; has a high yield; has the excellent milling and baking qualities of the parent, Marquis. But it isn't recommended for the northwest part of Kansas for it winter kills easier than Kanred or Turkey. It is also susceptible to Hessian Fly, while

Types and Varieties of Wheat . . .

Blackhull seems to have a partial resistance to it. Tenmarq is more resistant to leaf rust than of stem rust, but susceptible to other forms. Tenmarq is susceptible to bunt or stinking smut and to scab.

Kernels of Tenmarq are short, resembling Marquis, the spring wheat parent. The test weight per bushel of Tenmarq is usually about the same as Turkey and Kanred, but short two pounds less than Blackhull. "Yellow berry" kernels show up quite often and tend to have a relative low protein content.

Beardless Type

▲ Chiefkan is a new variety of beardless type of super hard Blackhull selected, increased, and distributed by E. G. Clark of Sedgwick, Kansas. His many claims for this are that it is the best wheat in the world; has large, strong straws; stands up through storms; is very resistant to Hessian Fly, leaf rust, and has no black stem rust. However, the chemists seem not to be pleased with this wheat for milling. They report the gluten is soupy, and doesn't have the "oomph" or "push" that is needed in flour for bakers.

Getting away from the Turkey wheats, we have Kawvale which was developed by the Kansas State College of Agriculture. It is a pedigree selection from a variety of soft red winter wheat known in the eastern states as Valley or Indiana Swamp. Kawvale is a bearded wheat with a soft to semi-hard grain. It is considerably more winterhardy than Fulcaster and Currell, and at least as hardy as Harvest Queen. In eastern Kansas, leaf rust is often a menacing factor in wheat production, and it is claimed that Kawvale is highly resistant to leaf rust. To stem (black) rust it has considerable resistance, but is not considered immune. Kawvale shows marked resistance to Hessian Fly of the hard wheat areas of Kansas, and to a lesser degree to the fly from eastern Kansas.

The kernels of Kawvale are long, rather pointed, and slender. The test weight averages well with the Fulcaster variety of soft red winter, but the grain grown in Kansas is harder than the standard varieties of soft red winter wheats, and mills more like hard wheat than like soft wheat. Kawvale is adapted to upland and bottom land conditions in eastern Kansas. The drawback is that the grain shatters from the head when ripe and should not be harvested with a combine.

Resistant Varieties

▲ According to plant breeders and plant pathologists at the Kansas Agricultural Experiment Station at Manhattan, and at other state and federal experiment stations, progress is being made in producing smut-resistant varieties of wheat. For example, it is stated a smut-resistant Turkey

selection named Gro, from eastern Oregon, has been crossed with Tenmarq, the variety now rapidly increasing in popularity in south central Kansas, Oklahoma and Texas. Tenmarq is susceptible to smut, as are old standard varieties of hard red winter wheat, Turkey, Kanred, and Blackhull. Smut-resistant selections of the cross between Oro and Tenmarq are now being tested in field plots at Manhattan, and on the branch experiment stations in western Kansas. These selections have the earliness and excellent quality of Tenmarq and appear promising. These new smut-resistant wheats will not be approved for increase and distribution to farmers for several years, and then only if tests now being made indicate that these selections are at least as good as Tenmarq for the farmers, the millers, and the bakers.

Again we want to express our objection to having varieties included in the grading of grain. Some time ago we had a sample of wheat submitted to us for variety which we were unable to classify so we forwarded it to an agronomist who replied that it would be planted and when harvested we would be advised of its variety. This is one of the arguments against it. There are many others. What would happen to the marketing of grain if this procedure became necessary?

We believe that the grain trade would be better off if only four varieties of Hard Red Winter and four varieties of soft Red Winter could be grown. On this point we believe the Southwest Wheat Improvement Association will do a great work and they should be given co-operation and encouragement.

We know you elevator superintendents are not deeply concerned about wheat varieties. You are, of course, interested in types for mixing purposes while we, as grain inspectors, are interested only in the grading of the grain as it comes from the box car.



Car Loadings Still Higher

▲ Since the week ending June 15 freight car loadings of grain and grain products have been increasing steadily. From 30,456 loaded in the second June week, the total went to 33,656 in the third week, 44,778 the fourth. The week ending July 6th saw 47,586 cars shipped and the week ending July 13th was up to 56,015.

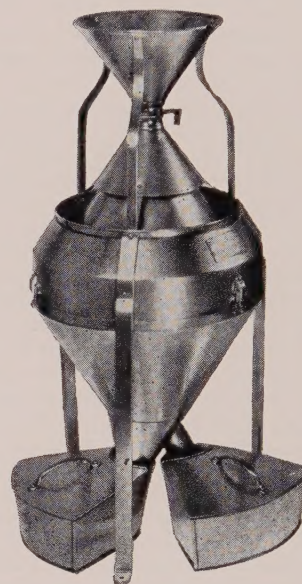
That the 1940 harvest was late was indicated by the comparison with the figures for the same weeks of last year. 59,332 cars were moved during the second week of July last year and 63,022 cars the year before.

Total loadings of all products were up to 740,065 cars, 80,000 more than the same week last year.

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can be obtained if your grain grading equipment is in good condition.

Replace worn or obsolete with Seedburo Quality, the equipment that is made according to Government specifications and has been used by leading mills and elevators since 1912.



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Seed Trade Reporting Bureau, Inc.

626 BROOKS BLDG.

CHICAGO, ILLINOIS

Explosive Grain Dusts Put Your Plant Under

Class Two; Group G

In the Underwriters' Electrical Code Book

By A. H. Nuckolls

Chemical Engineer, Underwriters' Laboratories, Inc.

IT will, I think, be helpful in describing Class II, Group G (as defined by Article 500 of the "National Electrical Code") equipment for use in atmospheres of grain dust, to first briefly describe Class I or explosion-proof equipment for use in atmospheres of combustible or explosive gases or vapors.

In the design of a motor or other electrical equipment of the explosion-proof type for use in Class I locations the most obvious method would be to employ a gas-tight enclosure to prevent the entrance of flammable gas or vapor, thus removing the danger of internal ignition by a spark from moving parts such as brushes or slip rings, or from short circuit caused by injured or defective insulation, or by high temperatures from overload or burnout. The only way, however, to insure the exclusion of gas is to totally enclose the equipment and seal the enclosure hermetically.

Such enclosures, particularly those for motors, would not under service conditions remain gas-tight very long, particularly at the entrance of shafts or of other moving parts. Since it is impractical to construct gas-tight electrical equipment, a type of construction is required such that if gas or vapor within the enclosure is ignited, the resulting flame is prevented from passing to the surrounding atmosphere. The design of equipment to meet this requirement is based upon the principle that the propagation of flame through an opening is prevented when the dimensions of the opening are within certain narrow limits.

Problem of Design

▲ The problem of design and construction in the case of Class II equipment for use in dusty locations is not so complicated, as it is practical to construct enclosures for motors and other electrical equipment which, under operating conditions will prevent the entrance of appreciable quantities of dust even at the entrance of motor shafts and other moving parts such as operating lever shafts and pushbutton rods. In other words, Class II equipment, as distinguished from explosion-proof or Class I equipment, is provided with enclosures which are dust-tight.¹

It is important that the enclosure shall be of substantial construction in order to have sufficient strength to meet service requirements without losing its dust-tightness.

It is also important that the equipment be so designed and constructed that the external temperatures attained when blanketed with dust will not be high enough to cause dangerous charring or ignition under conditions similar to those encountered in practice.

To prevent the entrance of dust into motor enclosures through the terminal fittings, it is further required that the leads or conductors shall be securely held and tightly fitted where they pass into the enclosure. If a sealing compound is used for this purpose, it must insure a dust-tight fit which will not soften² or crack under service conditions.

Detailed Requirements

▲ There are a number of detailed requirements in the Standards of Underwriters' Laboratories covering the construction of joints and shaft openings, including dimensions of clearances and metal widths, which need not be discussed at this time as they are recorded in detail in our Standards, copies of which may be obtained by those interested in going further into construction details.

The National Electrical Code limits the type of wiring for Class II locations to rigid conduit, but the use of short length flexible steel conduit or approved flexible connection fittings is permitted where such connections are necessary, as at motor terminals. Also, where necessary to use portable lamps or other portable appliances, flexible cord approved for hard usage, such as Type S or PA, is permitted. Conduit boxes and other fittings need not be dust-tight except where dusts are electrically conducting. However, if type of fittings employing lock-nuts and bushings are employed, bonding jumpers are required around them for bonding purposes in grounding (see

¹"Dust-tight" is defined by Article 100 of the "National Electrical Code" as follows: "So constructed that dust will not enter enclosing case."

²Softening point when heated not less than 200 F for Class A insulation, and not less than 236 for Class B insulation.

Article 500, paragraph 5062, of the National Electrical Code).

Equipment submitted to the Laboratories with a view to listing for use in Class II locations is subjected not only to examination to determine compliance with the requirements of our Standards but also to a series of tests to determine (1) the dust-tightness and the effect thereon of both continuous and intermittent operation at full load, voltage, and frequency, and (2) the blanketing effect of dust.

Dust Tightness Test

▲ For the dust-tightness test the equipment is installed in a dust chamber especially designed for the purpose, in which dusty conditions are reproduced in such a manner that the number of dust particles colliding with the enclosure at joints, shaft openings, or other places where dust might enter, is accelerated in order to make the test equivalent to several years' operation in service industry atmospheres.

In the test for blanketing effect of dust, the temperature of the enclosure attained when the equipment is blanketed with dust under conditions similar to those encountered in practice is measured, and the dust in contact with the casing examined to see whether charring or ignition of the dust was obtained.

For the purpose of above tests, dusty atmospheres have been divided into groups, as follows:

Class II, Group E—Atmospheres containing metal dust.

Class II, Group F—Atmospheres containing carbon black, coal, or coke dust.

(Both of the above groups are electrically conducting.)

Class II, Group G—Atmospheres containing grain dust.

It is impractical to manufacture electrical equipment which is safe for use in Class II locations without adequate circuit protection. It is especially important, therefore, that Class II equipment be installed with adequate overload and short circuit protecting for established ratings.

Finally, it is not practical to manufacture Class II equipment which is fool-proof to the extent that it does not require reasonable supervision and maintenance.

THEY ALSO SERVE WHO ONLY STAND AND WAIT

There are some jobs that don't seem to require much effort at first glance. Take a watchman at a railroad crossing. Smokes a pipe, reads all the papers. A life-guard down on the beach just sits around getting a beautiful tan. In a lighthouse, the keeper may even knit to pass the time.

But there comes a time when these men who only stand and wait are called upon to serve. A train whistles, a swimmer calls for help, a ship's captain sounds the fog horn. Then these men must respond swiftly, skilfully, reliably.

The escape from your building serves the same purpose as the men who only stand and wait. It, too, may be called upon at any moment to serve. It must be ready.

The POTTER Fire Chute provides the swiftest, surest escape from a building that science has been able to devise. Even an injured or panic-stricken person has no difficulty in entering the chute and sliding to safety. He can't be pushed aside or trampled by his fellow workers.

The POTTER Fire Chute is always ready for instant use. It can never become coated with ice nor cluttered with boxes and rubbish. Write today for a catalog and learn how you can protect your men from the dangers of fire and explosions.

Approved by Underwriters' Laboratories

CATALOG ON REQUEST

POTTER
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6120 N. California Avenue
Chicago, Illinois

This Month in History

TO ELEVATOR men busy with the first movements of harvest-time grain, July 4th seldom means a day off to shoot firecrackers, see the parade or take serious inventory of the nation's stock of historic independence. This year they may have missed the most critical Independence Day in United States history:

▲ The policy of isolation, long heard as the basic doctrine of United States foreign policy, was dead, would not even be an issue in the 1940 presidential election. Both party platforms pledge aid to "all peoples fighting for liberty or whose liberties are threatened" as long as that aid did not jeopardize the defense of the United States itself.

▲ The Monroe Doctrine, a short speech written by a Secretary of State and read to Congress in 1823 by President Monroe, had taken its place beside the Declaration of Independence and the Constitution. Whether or not South American countries would accept the doctrine as their own was still a problem to be faced by the Pan-American conference called to meet in Havana on July 20th. Whether or not United States cash could outbid Nazi promises of profitable trade to follow the breaking of the British blockade was a vital economic aspect of the larger political problem.

▲ The mistress of the seas, a title held since 1588 by Great Britain, was being challenged. The invasion of the English isle had been begun and upon the outcome of the battle depended the freedom of the seas that United States and other merchantmen have learned to expect. Should a large part of the British fleet fall into German hands as a result of the battle, then dominance of the seas would shift into German hands where it could be challenged by only the United States or Japan. Should the British fleet, defeated, escape to Canada, then that country together with the United States would inherit the English legacy.

▲ For the first time since 1914, the nation prepared a defense against sabotage in industrial plants and factories. Warned by the Federal Bureau of Investigation superintendents and foremen working in key industries were putting into effect the suggestions by the bureau. They found little romance in the first commandment of spy-hunting; it was simply to have at hand every means of extinguishing fires, the favorite device of saboteurs. Secondly, no employees in positions of trust should be retained unless their personal histories remove all doubt of their reliability and immunity to corruption.

Actual incidents of sabotage were listed: Nails had been driven through cables to cause short circuits; tools have been placed on ledges over generators so that vibration would cause them to fall into the spinning gears; pieces of bent wires have been placed over the terminals of a switchboard; metal rods have been placed in generators; wiring has been shifted to make gauges and meters read inaccurately; bricks were lodged in a trough of molten steel. It was also recommended that visitors touring the plant or factory be checked in and out and required to wear a badge during the tour.

Elaborate plans are made by professional saboteurs to make incendiary fires and explosions seem accidental. For example, a small vial may be prepared and placed in a shipment of grain or coal destined to be carried in a merchant vessel that will be loaded also with other vital supplies for the armed forces. The chemicals inside the vial slowly eat their way through the soluble material according to planned timing. The vessel could be at sea, in a harbor, or standing at quarantine when the chemicals in the heat of the hold would burst into flame or even explode.

Similar schemes have been practiced in industrial plants. Power lines, transformers, engine rooms and boiler rooms offer excellent opportunities for the saboteur and should be guarded especially well.

★

New Overtime Method Allowed

▲ A new way of paying overtime "in advance" has been approved by a recent ruling of the Wages and Hours Administration for those employers who find it expedient to pay a regular wage week by week regardless of the exact number of hours' work.

It is now permissible for the employer to accumulate the hours less than 42 worked in any one week and apply them against overtime worked in any following week at the rate of 1½ for each overtime hour. If an employee should work only 36 hours in one week and still receive his full 42-hour pay, then he would owe his employer 4 hours of overtime work during any ensuing week, that is, 6 hours at the rate of 1½ to 1.

Whether or not the employees are paid on an hourly basis does not affect the ruling as long as the pay for each week covers 42 hours, but the new method may not be used unless the employees agree.

DOES IT

TO

In-Fil-

OR

Flex-

FOR

WATER

YOUR GA

IT TAKES
1 GALLON
OF
ORDINARY
WATERPROOFING
PAINT
TO
COVER
100 SQ. FEET

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This dries out Rapidly.

Why?

Because the film is exceedingly thin
and soon
loses its flexibility and usefulness.

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Write or wire
and we will gladly
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Either of our specifications provide for a very thick built-up film, shot on with special equipment. This will remain flexible for a long period of time.

s, hence Positive Results can be Guaranteed

ORATION

30 N. LA SALLE ST.
CHICAGO, ILLINOIS

Kansas Buyers Watch Dockage

▲ In parts of eastern Kansas it has become evident that much cheat as well as weed seeds mixed with this year's crop of wheat and barley likewise mixed make dockage a problem to buyers of the grain.

Standard dockage sieves have been approved as the most economical and convenient means for determining the exact figure. No other equipment should be necessary since dealers who have handled grain containing dockage find that the two-quart tester kettle can be used very effectively in determining the percentage of dockage.

Secretary Dies In Kansas City

▲ Charles W. Partridge, national secretary of the Association of Operative Millers, died recently at the Continental Hotel in Kansas City following a heart attack. He had been suffering from a heart ailment for some time.

Better known to millers everywhere as Pat, Mr. Partridge had been secretary of the association of milling superintendents and mill operators in the United States, Canada and Mexico for the past nine years. He was 50 years of age.

Baltimore May Again Be Busy

▲ Shipped the long way around, a full cargo of Australian wheat—280,000 bushels—arrived in Baltimore June 17th, marking what is hoped will be a heavy movement of grain through that port.

Because of its facilities for unloading ships, Baltimore looks for a major portion of the grain moving from "down under" to the United Kingdom to pass through its port. Elevators owned by Western Maryland, Pennsylvania and Baltimore and Ohio railroads are equipped to load or unload ships in record time.

Shipping problems created by the prohibition of United States ships from entering certain war zones has led to the practice of moving cargoes from Brisbane, Sydney, Melbourne and Adelaide to north Atlantic ports in United States bottoms; while ships of the belligerent countries and of Dutch and Norwegian registry are used for the trans-Atlantic run.

★

Safety Suggestion Stands Approved

▲ Percy Poulton, President of the Supers' Society, suggests that the bolts used to hold the lagging of leg head pulleys be drawn up tight enough to bury the head and thus prevent any chance of its striking on the elevator belt.

It would be necessary, Mr. Poulton points out, to use lagging of sufficient thickness plus a rubber covering of at least 1/16th of an inch in order to sink the bolt heads. Then any bolt heads in the lagging would be buffed off by the lagging instead of striking a spark from another bolt.

Mr. Poulton's suggestion was addressed to R. L. Forney, Director of the Industrial Division, National Safety Council, in regard to the Council's Safe Practices Pamphlet No. 104 entitled "Dust Explosions."

★

Test Weights Must Be High

▲ A section of one of the bins in the Rock Island elevator at Kansas City gave way under pressure of the new wheat crop and allowed 15,000 bushels of the grain to pour out on the ground beside the structure.

Workmen noticed a crack in the side of the bin and Superintendent C. F. Peterson began unloading at once. But it was too late. About 8,000 bushels had been removed when the wall gave way and an opening 45 feet high and 20 feet wide resulted.

The elevator, a four million bushel house built in 1917, has 160 bins in all. It is operated by Simonds-Shields-Theis Grain Company.

KNOW ANY OTHER FUMIGANT

with all these Advantages?

- 1 Kills grown-ups and larvae—and sterilizes eggs.
- 2 Easily applied right into grain stream, when receiving or turning. No costly apparatus.
- 3 Economical for both Terminal and Country Elevators.
- 4 Tends to relieve grain from slightly musty and weevily odor—and to sweeten it.
- 5 Powerful fungicide.
- 6 Completely volatile; leaves no residue.
- 7 Kills rodents, too, so they die in the open; no carcass nuisance.
- 8 Self-warning. Any powerful fumigant is deadly to humans. LARVACIDE'S self-warning quality makes it impossible for anyone, without a mask, to enter or stay in concentrations considered dangerous.
- 9 No fire or explosion hazard.

The only fumigant we know
that does all this is

Larvacide

INNIS, SPEIDEN & CO.

Established 1816

Cylinders 25 to 180 lbs. and 1-lb. Bottles, each in safety can, 6 and 12 to wooden case. Stocked in major cities.

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Can You or Can't You That's The Question

▲ During the past few months the federal courts and the different commissions that administer such laws as the Fair Labor Standards Act, the Wagner Act and the Social Security Act have made important rulings as to just what you can or cannot do under the laws. Here are a few of the more recent rulings:

YOU CAN sue a labor union if its pickets call you unfair to organized labor and you can prove that you are not. The Washington Federal court held that such accusations constitute libel if they are not true and therefore the libeled party has the right to sue.

YOU CANNOT get out of paying Social Security taxes on any back wages you may be ordered to pay as a result of a suit under the Wage and Hour law. The Board of Internal Revenue holds that such payments are subject to tax inasmuch as they should have been paid along with the regular wages and therefore would have been taxed.

YOU CANNOT say much about your "open shop" labor policy without getting into trouble with the Labor Board. The Board has held in one case that a company which boasts of the "open shop" policy may be considered interfering with its workers' right to organize for collective bargaining. The "open shop" policy is interpreted as opposed to all labor organizations.

YOU CANNOT refuse to bargain with a union pending a federal court decision that you are subject to the Labor Act. Such a stand, says the Labor Board, constitutes refusal to bargain collectively as required by the Wagner Act.

YOU CANNOT, without risking Labor Board action, refuse to embody in a union contract the holidays, vacations and bonuses that you had been allowing your employees before the contract was signed. The Board has refused to consider one employer's contention that such practices should remain on a voluntary basis.

YOU CANNOT deduct from your employees' working hours the time spent in rest periods if such periods are not longer than 20 minutes. The Wage-Hour administrators made this ruling and suggest that if rest periods should exceed 20 minutes that the employer should consult the regional director for a ruling.—United States News.



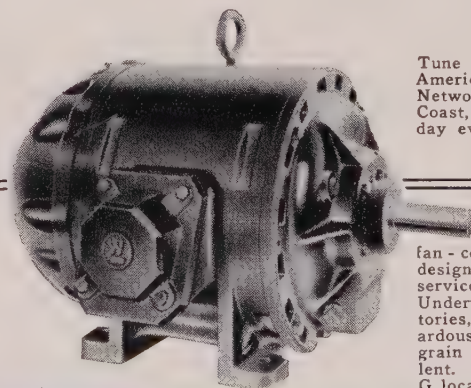
On OUR pay roll . . . but he works for YOU!

To Westinghouse, our salesman is *your* representative. You will find him alert to your interests, to help your engineers and superintendents select electrical equipment best fitted to your needs.

And . . . for the unusual job, where specialized knowledge is required, he will obtain for you the co-operation of a group of Westinghouse engineers, skilled in grain handling methods and equipment. To them, he will furnish the facts from which they can recommend practical equipment that will pay you lasting dividends.

You can obtain this type of electrical representation from your local Westinghouse office. We suggest that you try it for any electrical need.

WESTINGHOUSE ELECTRIC & MFG. CO.
EAST PITTSBURGH, PA.



Tune in "Musical Americana," N.B.C. Network, Coast-to-Coast, every Tuesday evening.

Explosion - resisting motor, totally enclosed, fan - cooled, especially designed for milling service. Approved by Underwriters' Laboratories, Inc., for hazardous locations where grain dust is prevalent. (Class II Group G locations.)

J-94263-A

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ELECTRICAL PARTNER OF INDUSTRY





Is It Profitable

**To Buy Power in Any Form for Use Against
Needless Back Pressure on Aspiring
Equipment or Dust Collecting
Systems?**



Here's a case record taken from our files that is only one among many that have proved it *pays* to use Day engineered installations and DUAL-Clone Dust Collectors.

GRAIN CLEANER APPLICATION

Operating on a cleaner with an independent fan, a long cone cyclone delivered 4,000 C. F. M. with 3½" collector resistance. An attempt to overcome the lack of aspiration by the use of a larger fan resulted in no appreciable increase in air volume.

A Dual-Clone collector installed as a replacement of the cyclone delivered 5,000 C. F. M. with 1" collector resistance, using the original fan. The low back pressure characteristic of the Dual-Clone produced the necessary increase of air volume for aspiration at no increase in power consumption.



Increased
Air Volume
for Aspiration

Write today. A Day representative will study your particular problems before making a recommendation.

The DAY Co.
2938 Pillsbury Ave., Minneapolis, Minn.

In Canada, The Day Company of Canada, Ltd.



Orrin S. Dowse To Fenner & Beane

▲ Orrin S. Dowse, well-known cash grain authority and President of the Santa Fe Elevator Corporation, Chicago, resigned the first of this month to become manager of the Grain Futures Department of Fenner & Beane, large New York wire house with connections and offices throughout the Central West, Southwest, South and East.

In addition to giving up the presidency of the grain merchandising firm which he headed and organized, he likewise resigned as a partner of James S. Templetons' Sons, milling wheat specialists.

Board Director

▲ Mr. Dowse is a director of the Chicago Board of Trade at the present time, served as First Vice President and Second Vice President the two preceding years, and has always been active in Exchange and Association affairs. He now serves on the Executive Committee, is Chairman of the Rules Committee, and also acts on the Warehouse Committee.

Starting in with Armour Grain Company at Chicago in 1914, Mr. Dowse, who is one of the youngest executives on the exchange floor, was an assistant vice-president in 1927 when that firm discontinued business. From 1927 until 1939 he was vice-president of Stratton Grain Company with the exception of 1934-35 when the John Kellogg Company took over the operations locally.

Active, dynamic and forceful, Mr. Dowse is assured of the same success which has graced his efforts in the past. An opponent of government restrictions and regulations, he can always be counted upon to fight for the best interests of the industry.



SIMILAR

He "Women are always happy before a glass."

She: "Yes, and men are always happy after a glass."

Dust Explosion Department Closed

▲ Because of the lack of appropriation by Congress, the dust explosion and fire prevention department of the Department of Agriculture directed by Dr. David J. Price was closed on June 30th. No further investigations of explosions or fires will be made during the coming fiscal year.

The need for the continuation of this work is thereby resolved upon the industry itself. Everyone interested is urged to offer suggestions for the extension of the program through private means.

Soybeans May Increase 50%

▲ Soybean production for the United States this year may be 50% more than last year's crop, it has been predicted by Garret L. Jordan, associate professor of agricultural economics at the University of Illinois.

The acreage reports of the Department of Agriculture show a 10% increase over last year with the total over 10 million acres for the first time. But since the greatest increase in acreage is in the highest-yielding areas, the crop may be half again as



SNOOPER

The Boiler-Room Cat

Heirlooms and antiques have their place in sentiment, but to hold your place in modern business your plant must be kept up to date.

large as last year's, Dr. Jordan estimates.

Enjoyed It Much

▲ "The employees of the local elevators and those attending the Grain Dealers Oklahoma convention enjoyed very much the dust explosion film, 'Dangerous Dusts,' which the Society of Superintendents sent down."—Claud Nicholson, Manager, Pillsbury Flour Mills, Enid, Oklahoma.

"Super-Looper" Changes Homes

▲ "Super-Looper," that ingenious powerless bag-closing portable designed and manufactured by the Richardson Scale Company of Clifton, N. J., will hereafter be sold by the Bemis Bros. Bag Company.

The light-weight friction-drive device has found many an enthusiastic user in grain handling and processing plants where occasional or accessory usage of this lightning sewer-upper saved many of those proverbial "stitches in no time."

Barley Field Day

▲ A discussion of the Department of Agriculture's research in coordinating farming with the industrial use for farm products by Chris L. Christensen, dean of the Wisconsin College of Agriculture, featured the Barley Field Day meeting of the Malt Research Institute in Madison, July 12.

The afternoon was spent in inspecting barley plots, winter barley test plots and other experimental work now under way at the College. The group also visited the experimental malting laboratory in the Agronomy building.

You're Bound to Win in the Annual Safety Contest

YOU can't possibly lose, for there are no blanks in this game. You win every time.

It's true there are only four silver cups to be awarded to the holders of the best safety record during the year ending next June 30th. But the real winners may not have the best safety records. The real winners will be those who have avoided the greatest number of accidents. Those who have saved a life, protected an employe from loss of a limb or taught their crews to be careful. They may not win silver cups, but they will win the real battle.

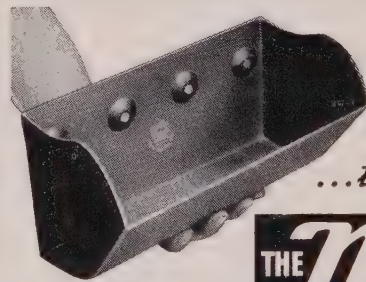
Join in this campaign to reduce accidents by removing the causes for accidents. Help your industry reduce the accident rate, the cost of insurance, the tragedy of crippled men. Join today.

FOURTH ANNUAL SAFETY CONTEST

Society of Grain Elevator Superintendents
4100 Board of Trade Building
Chicago, Illinois

Consider what a 10% to 50%
increase in Elevator capacity
would mean
to YOU!

...then investigate



THE **Nu-Hy**
GRAIN BUCKET

Note the neat one-piece construction. "Nu-Hy" Buckets are made of heavy gauge steel, without bands, overlaps or other obstructions which tend to hinder pick-up or discharge. They are so designed that continuous spacing on belt is possible, pick-up and discharge being uniformly efficient. Perfectly smooth inside and out, the "Nu-Hy" Buckets, while stronger and more resistant, are light in weight.



PATENT
PENDING

WE absolutely guarantee the "Nu-Hy" grain bucket will outperform your present elevator bucket installation under the same operating conditions. The behavior of this bucket in over 100 installations to date enables us to make this startling, unqualified guarantee.

A thorough fact-finding investigation of the remarkable operating characteristics of the "Nu-Hy" Grain Bucket is invited.

Send NOW for a sample bucket and our capacity analysis sheet, No. 76, which will enable us to uncover any hidden inefficiencies in your elevator and make guaranteed recommendations.

Screw Conveyor Corporation
707 HOFFMAN ST. HAMMOND, IND.

SCREW CONVEYORS ELEVATOR BUCKETS
TRADE MARK REG. PRODUCTS U.S. PAT. OFFICE

Loss from Accidents Set at 64 Million

▲ Economic losses to business and industry through traffic accidents and fatalities has been estimated at 64 million dollars each year, William H. Cameron, General Director of the National Safety Council, told members of the Wisconsin Council of Safety in session last month in Madison. "But in addition to these direct losses," Mr. Cameron added, "the indirect losses are many."

These include the cost of replacing trained men, delays in production and mounting taxes needed to care for families whose bread-winners have been killed or injured, Mr. Cameron said.

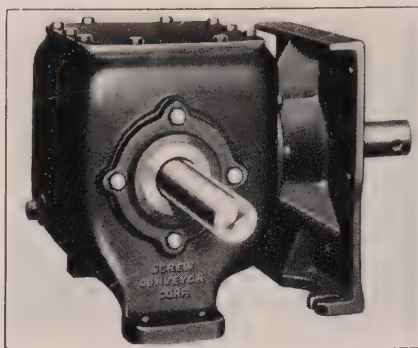
In addition to meeting all safety requirements in their establishments Cameron urged industrialists and business men to take an active interest in the promotion of highway safety by inspecting cars of employees, forming safe-driving clubs, and providing pamphlets and illustrative material showing safe-driving methods.

In his talk, Mr. Cameron also pointed out the need for accident-prevention work in the home itself where many potential accident causes are tolerated daily. He called upon the Council to direct its efforts towards acquainting home owners with home-safety practices.

★ INTELLIGENT

Sitting in a concert hall waiting for the concert to begin, a man, seeing a little boy in front of him looking at his watch, bent forward and asked: "Does it tell the time?"

"No," answered the little boy, "you have to look at it."



This New Box End Takes Less Power

▲ To bring power losses in the operation of Screw Conveyor systems to an absolute minimum, as well as to provide utmost protection from fires and other accidents common with exposed gearing, Screw Conveyor Corporation of Hammond, Indiana, has introduced the "ACE," a new one-piece enclosed anti-friction counter-shaft box end, considered a revolutionary improvement in elevating and conveying equipment.

The unit houses both gears and bearings, is completely sealed from dirt and dust, as well as being absolutely oil-leak-proof. Its Timken roller bearings carry all thrust and radial loads, eliminating the need of a separate thrust bearing. The box end is interchangeable with all old types and is designated with a safety factor considerable in excess of normal horsepower requirements. Compactness in design and neat proportioning avoids excessive size and weight, also reducing installation costs.

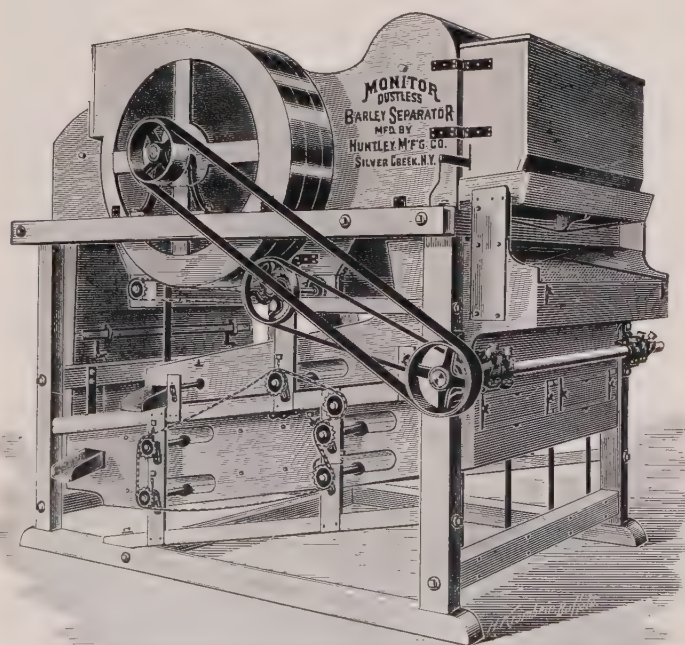
Elevators May Win Exemption

▲ On the grounds that grain elevators face a seasonal problem in common with that of other agricultural industries, Wage and Hour Administrator Fleming has announced that country, sub-terminal, terminal and mill grain warehouses will be granted a 14-week partial exemption from the requirements of the Fair Labor Practices Act. During the seasonal rush of not more than 14 weeks, employees may work without overtime up to 12 hours a day, 56 hours a week, if no important objections are filed with the Department of Labor within the next 15 days.

The interpretation of the 14-week seasonal period has been that this need not fall in consecutive weeks. It may be two periods of seven weeks each at different seasons or any other division that does not add up to more than 14 weeks per year. During that time no overtime need be paid in excess of the regular hourly rate.

The Administrator's new ruling defined the industry covered as that engaged in "the storage of wheat, oats, barley, rye, corn, and other grains and soybeans, flax and buckwheat."

"Most of the workers in terminal elevators are members of unions and are working under agreements between the union and the employer at higher wages than the minimum provided by the Act and with an agreed limitation on working hours. This determination will in no wise affect these employer-employee agreements, nor will it affect maximum hour limitations in state laws," the announcement said.



FOR SALE

Two Carefully Used

MONITOR

Automatic Barley Separators

These two machines are style B, Size No. 15 with capacity of 3,000 bushels per hour on coarse screen and 1,700 bushels per hour on fine screen. They are offered for sale at extremely low prices. See them today. They are in good operating condition, ready to set up and start at once.

G. H. WALDER, Purchasing Agent
Chicago, Milwaukee, St. Paul & Pacific Railroad Co.
718 UNION STATION CHICAGO, ILLINOIS

Overtime Pay Is Ruled Out

▲ Based on the theory that the Wage and Hour Act was passed to protect the low income worker, a decision handed down last month by the United States District Court for the Northern District of Texas denied that an employee who was already receiving more than the minimum wage could sue for overtime pay. This ruling was in direct contradiction to the ruling by the administrators of the act that overtime pay must be figured on the basis of the actual wage and not on the basis of the minimum wage.

In the opinion of the court, as long as an employee received a minimum of 30c an hour for 42 hours plus 45c an hour for all over 42, the law had been complied with and no suit for overtime pay could be granted. In the ruling of the administrators, if an employee was receiving 60c an hour and had worked 48 hours per week he could ask for 6 hours at the overtime rate of 90c.

Currently the practice among employers is in accordance with the interpretation of the law by the administrators. As an example: the employee is hired for a basic 42-hour week at the rate of 40c. First, he receives his 40 times 42 or \$16.80. Then he receives 1½ times 40c times the number of overtime hours, say 10. This would then add \$6.00 to his pay for a total of \$22.80. In other words, the overtime rate is based on the actual hourly rate and not on the minimum hourly rate.

Under the interpretation of the law as set up in the Federal Court's decision the same pay would be figured thus: 42 times 40c for a wage of \$16.80. Then 10 hours of overtime on the minimum wage base and not the actual wage, that is, 1½ times 30c, not 40c. This, then, figures up to \$4.50 overtime rather than \$6.00 for a total of \$21.30.

This disagreement between the administrators and the courts will probably be reviewed by the United States Supreme Court soon after it convenes in October. Until then, employers will probably keep on paying overtime in accordance with the administrator's ruling.

★

Northwest Crop Is Nearly Average

▲ No matter what the weather and moisture conditions may be from now on, the Northwest will have a fair crop about the same as the average for the past few years, writes L. C. Webster, Secretary of the Northwest Country Elevator Association.

Although the prospects for a bumper crop have been faded by the hot winds and lack of rain during June, there still is a good stand of most grains.

THERE'S A FIFTH COLUMN IN EVERY HOUSE

Not a grain plant anywhere that doesn't face the problem of a fifth column. It's that column of fine dust that you see floating in the air whenever a shaft of sunlight pours in through the openings. That's dangerous dust. One tiny spark, however accidental, and that fifth column goes into action instantaneously.

Take steps to clean the fifth column out of your house by removing the fine dust that readily suspends itself from the air in explosive concentrations. Then sparks from tramp metal, friction, abrasion or tools have little left on which to act.

•

ROBERTSON SAFETY VENTILATORS will protect your elevator by removing the fine dust from elevator legs by continuous gravity action. In case of a blast they give way to the force of pent-up gases and flames and minimize the possibility of secondary explosions by continuously venting the gases and the dust.

•

ROBERTSON CAPACITY BIN VENTILATORS will provide a balanced ventilation for your grain bins so as to prevent the stirring up of dust when the bin is being filled or emptied. They are guaranteed not to offer more than .0026 water gauge resistance and not less than 324% free area vs. stack area.

•

ROBERTSON PROTECTED METAL makes the ideal siding and roofing for terminal buildings. Its corrugated steel core is protected from corrosion by precessed asphaltic and asbestos coatings. Its service record all over the world is proof that it will last under all weather and fume conditions.

Write for catalog.

H. H. ROBERTSON CO.

Farmers Bank Bldg.

Pittsburgh, Pa.

Chicago Superintendents Dine On Soy Soup, Weet and Vegelona

AN entire meal of soybeans in various forms was served the members of the Chicago Chapter at their monthly meeting on July 2nd. A soy-carrot juice appetizer was followed by hors-d'oeuvres of soy mince sandwich spread. Soy soup with soy-weet wafers preceded the soy-vegelona meat course, fittingly accompanied by a salad of pineapple stuffed with pimento soy paste and covered with soybean tomato sauce, a side dish of baked soybeans with soy tomato sauce and soybean bread and butter. Soy milk ice cream with soy fruitless wafers, and coffee with soy milk rounded out the novel and delightful menu arranged by Emil Buelens of The Glidden Company with products from the Loma Linda Food Company of Arlington, Riverside, California.

Tour New House

▲ And all this happened after some sixty members of the Chicago Chapter had spent the preceding three hours inspecting the Glidden Company's new 2,000,000 bushel "dream" elevator and solvent extraction plant, which feature attracted attendance from 170 miles around. The new plant intrigued everyone with all of its new and novel innovations, all of its refinements that long ago should have become "standard" specifications for all such storage units. The plant only takes five men to operate during the day shift and during the other sixteen hours of each twenty-four is run by push-buttons from the extraction unit.

Particular emphasis has been laid upon safety measures with all fire extinguishers marked with a brilliantly striped red and white wall panel and

every precaution taken for the safety of the men.

▲ Elected president of the Chicago Chapter for the third year in succession was C. J. Alger, Corn Products Refining Company, Argo. Louis Ambler, Glidden Company, was named vice-president; Gordon Laugen, Archer-Daniel Midland Co., second vice-president; and C. Gibson Franks, Albert Schwill & Company, secretary.

Directors for the coming year named at the meeting were B. I. Weller, Weller Metal Products Company; Paul Naehrer, B. F. Gump Company; Lou Rendell, Pratt Food Company; Hammond; E. R. Anderson, Norris Grain Company, and Frank Crombie, Continental Grain Company. Honorary directors are William H. Gassler, Rosenbaum Brothers, and Gilbert P. Lane, Arcady Farms Milling Company.

The Program Committee named for the coming year consists of Louis Ambler, Glidden Company; E. A. Josephson, Albert Schwill & Company; Fred A. Rech, Arcady Farms Milling Company; C. Gibson Franks, Albert Schwill & Company, and Arnold Myers, Cleveland Grain Company.

Dust Explosion Committee

▲ To further the study of dust explosions and their causes, an Explosion Committee was named consisting of Joseph A. Schmitz, Chief Weighmaster, Chicago Board of Trade; C. J. Alger, Corn Products Refining Company; William A. Gassler, Rosenbaum Brothers; Harold Wilber, A. H. Staley Manufacturing Company, Decatur; G. Frank Butt, John S. Metcalf Company.

Gilbert P. Lane, Arcady Farms

Milling Company; Lou Gillan, Corn Products Refining Company; Emil Buelens, Glidden Company; E. A. Josephson, Albert Schwill & Company; and B. P. Kline, Hales and Hunter were named to the Safety Committee.

The Membership Committee named was C. J. Alger, Corn Products Refining Company; Gilbert P. Lane, Arcady Farms Milling Company; Lou Rendell, Pratt Food Company; John Becker, Rosenbaum Brothers; and B. I. Weller, Weller Metal Products Company.

New Phone Committee

▲ Gordon Laugen, Archer - Daniels - Midland Company; William H. Gassler, Rosenbaum Brothers; William Radke, Corn Products Refining Company; E. R. Anderson, Norris Grain Company; and Paul Nacher, B. F. Gump & Company, were named to the Attendance Committee delegated to phoning all members on the meeting dates.

Arrangements and entertainment were put into the hands of H. A. Keir, Arcady Farms Milling Company; C. Gibson Franks, Albert Schwill & Company; E. R. Anderson, Norris Grain Company; Lou Ambler, Glidden Company; and Gordon Laugen, Archer - Daniels - Midland Company.

The Associates Committee for the coming year consists of W. H. Kent, Kent Equipment Company; H. G. Onstad, H. G. Onstad Company; Russell Maas, Screw Conveyor Corporation; S. C. Klaus, Zeleny Thermometer Company; and Clifford BeVier, S. Howes & Company.

Among Those Present

▲ The meeting and soybean dinner concluded the Chapter activities for the summer. Besides those already mentioned the visitors to the new plant were: M. Young and Harold Wilber, Staley Manufacturing Company, Decatur; C. De Weese, Dewey Food Products Company; G. R. Basler, Foote Gear and Machine Company; M. Chenoweth, M. H. Littman, N. C. Rongsted and J. B. Gottfried, Corn Products Refining Company; W. Bowden and W. F. Benis, Materials Handling and Equipment Company; W. M. Hales and F. W. Moxey, Hales and Hunter Company; A. F. Eiserer; O. B. Roberts, B. F. Goodrich Company; O. H. Nuckolls, Underwriters' Laboratories; A. E. Putman, MacDonald Engineering Company; Lloyd Lamm, Dodge Manufacturing Company; L. J. Daniels, Arcady Farms Milling Company; C. Hegwein, Pratt Foods; A. M. Bain, H. C. Stanford and F. M. Halwick, Washburn-Crosby Company; and Paul Naehrer, B. F. Gump Company.

* * *

GIVE HIM TIME

Wife: "The new couple next door seems very devoted. He kisses her every time they meet. Why don't you do that?"

Dealer: "I don't know her well enough yet."

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**Increased Capacity
Perfect Discharge
Superior Wearing
Quality**



We can also furnish these buckets in a new rustless, non-sparking metal for flour and soft feed. Less than one quarter the weight of steel and at a fraction of the price of standard stainless steel.

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Super Secretary Wins Promotion

▲ Peyton "Jimmy" Kier, Standard Milling Company superintendent and Secretary of the Supers' Society's Kansas City Chapter, has been named assistant manager in charge of elevator operations for his firm, which recently took over the Missouri Pacific Elevator "B" located in the East Bottoms district of Kansas City. The 2½ million bushel house had formerly been operated by Cargill, Inc., which has now taken over the Milwaukee 3 million bushel house.

Oscar T. Cook, who for many years has been wheat buyer for the New Standard Milling Company in Kansas City will manage the Standard Elevator and Grain Division for the firm.

Mr. Kier is also applicant for membership in the Kansas City Board of Trade on transfer from Charles W. Sherman, bakery sales manager of the company.



Safety Bulletin Produces Results

▲ The "Soybeaner," a four-page safety bulletin and employees' paper issued each month by The Glidden Company, is one of those periodic report cards that can keep safety activities on an interesting, competitive basis.

The editors keep score of every first aid case and every case to the doctor in each department and tabulate them against the other departments. They also present the record of the plant as a whole, which to date this year shows 177,041 man hours worked without a lost-time accident.

Emil Buelens, member of the Supers' Society, is production manager at the soy bean plant.

Chapter President Outlines Program

▲ A six-point program for the advancement of the Chicago Chapter of the Supers' Society was outlined by the Chapter President, C. J. Alger, Corn Products Refining Company, before the Chapter gathering on July 2nd. After reviewing the successful work of the last year, Mr. Alger recommended that the officers and directors meet at least quarterly to discuss chapter matters, that the program committee arrange meetings for the year in advance, that the membership committee phone each member before the regular meetings, that dust explosion and safety committees meet monthly to stimulate the progress of their work, and that all committees concerned in the arrangements for a meeting meet in a body and work out the details of each meeting.

Mr. Alger's sixth suggestion covered a concerted membership program by which the membership committee would be divided into two teams with the competition stimulated by monthly score reports. A \$10 Stetson was offered by Mr. Alger to the member who reported the most recruits during the coming year.



Linseed Oil Mills Are Busy

▲ Production of linseed oil during the three months ending June 30th was up 4 million pounds over last year, it was reported by William L. Austin, Director of the Census. The total extracted by 27 mills from 185,000 tons of flaxseed weighed 128 million pounds.

DO YOU WANT TO LEASE BUY OR SELL AN ELEVATOR?

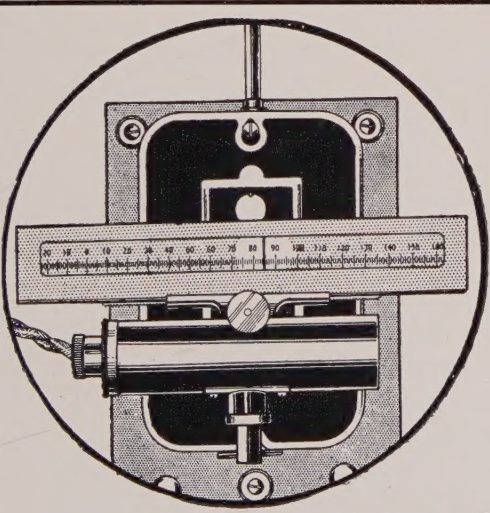
How about your equipment? Have you something that no longer fits your requirements? Something that's been well cared for, that's in good condition, for which you no longer have any use?

What equipment do you need? Could you use a good cleaner that had been in service only a short time? How would you like to trade something that you can't use for something that you can use?

You can find the elevator, the equipment or the trade that you want; or you can find a buyer for your elevator, equipment or machinery through an inexpensive advertisement in **GRAIN**, the magazine that is read in EVERY terminal grain and grain processing plant.

Tell us your needs and let us show you how economically you can contact just the man whom you want to meet. Let us help you find the elevator that you want or the equipment that you need. Write today.

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New Crops Will Soon Be Ready for Storage!

You can store this grain safely and economically by instantly checking its condition.

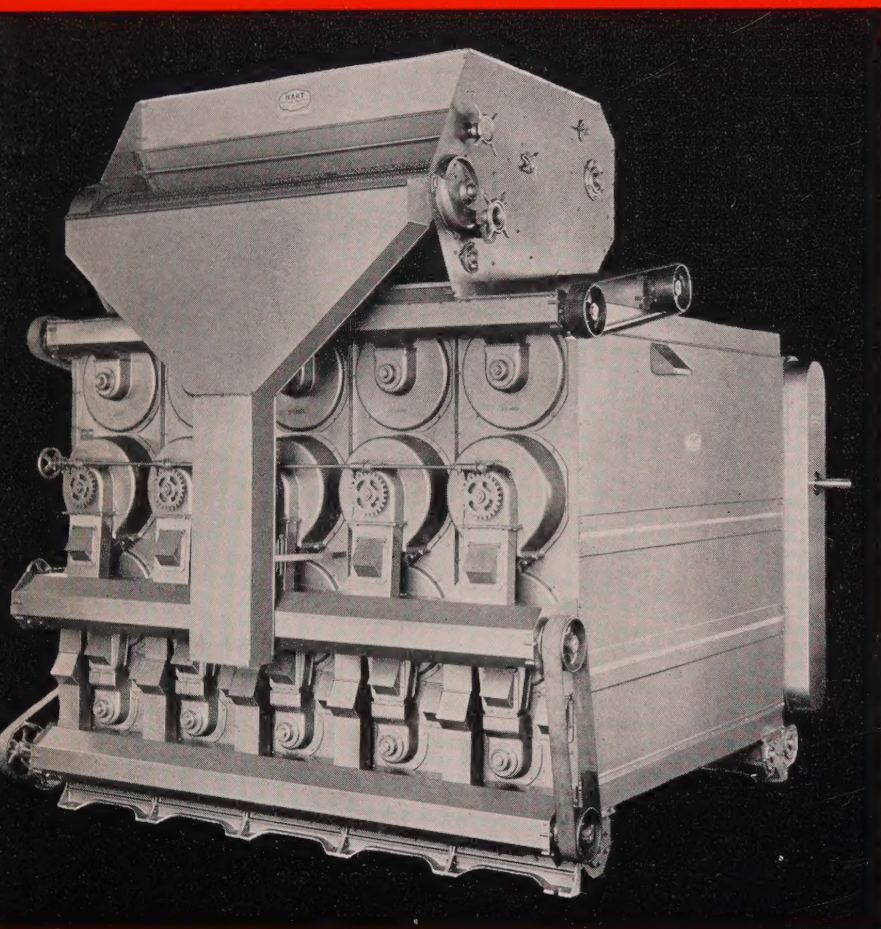
Use a ZELENY THERMOMETER SYSTEM

MAY WE QUOTE ON YOUR REQUIREMENTS?

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Here's **GIANT CAPACITY** **GRAIN CLEANING** for Terminals!



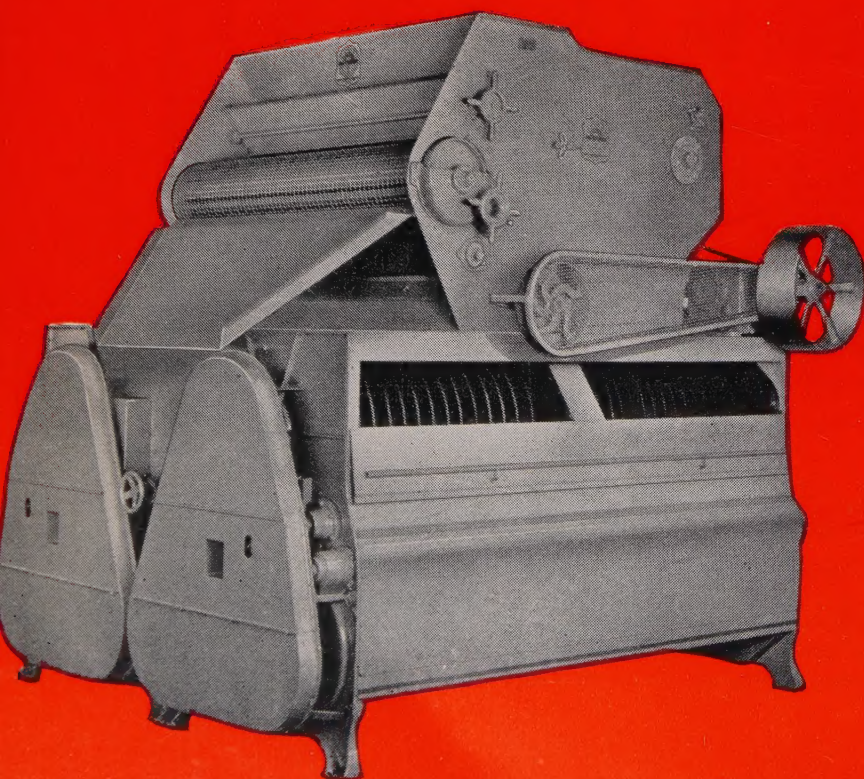
A NEW HIGH - SPEED Hart Uni-flow Separator



Just announced, to meet the giant capacity requirements of Terminal Elevators, is the new No. 45 Hart Uni-flow Grain Separator. Here is cylinder separation at its best. Flexibility, efficiency, simplicity are combined with mammoth capacity in a complete

cleaner that includes scalping and aspiration. An exclusive feature is the Hart Uni-flow control—a positive, power-driven mechanism, that maintains a uniform flow of grain and uniform grain line in the cylinders under all conditions. Easy adjustments permit exceptional results with barley, wheat, durum, rye and buckwheat. Investigate this remarkable equipment value. Write for details and prices.

A HEAVY-DUTY UNIT That Combines Discs and Cylinders



Widely accepted by terminals as the most adaptable and thorough big capacity cleaner on the market, is the No. 2564 Carter Disc-Cylinder Separator. Combining discs and cylinders in a single machine, this heavy-duty terminal unit performs in one operation five major separations plus scalping and aspiration. Carter Discs provide the world's most exact method of cleaning grain. Hart Uni-flow Cylinders add flexibility and insure big capacity. Compact, all-enclosed, low in power requirement, the 2564 is a real profit-maker. Ask for free descriptive folder and prices.



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